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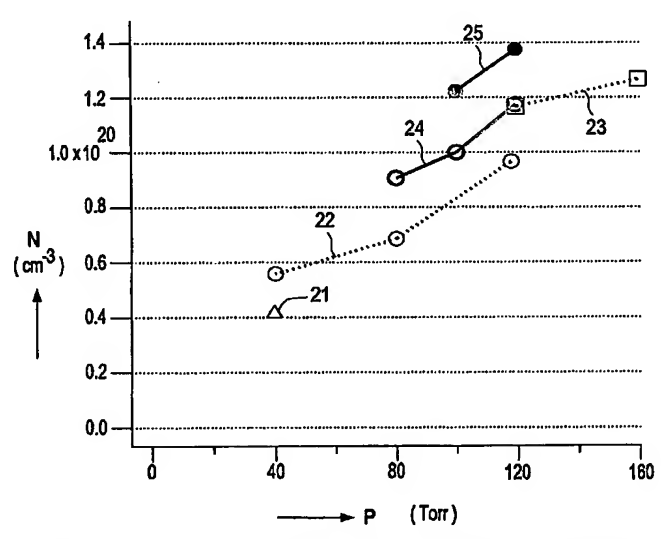
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(54) Title: **METHOD OF EPITAXIAL DEPOSITION OF AN N-DOPED SILICON LAYER**



(57) Abstract: The invention relates to a method of manufacturing a semiconductor device (10) with a semiconductor body (1) comprising silicon is provided with an n-type doped semiconductor region (2) comprising silicon by means of an epitaxial deposition process, wherein the epitaxial deposition process of the n-type region is performed by positioning the semiconductor body (1) in an epitaxial reactor and introducing in the reactor a first gas stream comprising a carrier gas and further gas streams comprising a gaseous compound comprising silicon and a gaseous compound comprising an element from the fifth column of the periodic system of elements, while heating the semiconductor body (1) to a growth temperature (T_g) and using an inert gas as the carrier gas. According to the invention for the gaseous compound comprising silicon a mixture is chosen of a first gaseous silicon compound which is free of chlorine and a second gaseous silicon compound comprising chlorine. Such a method allows for a very high carrier concentration in the in-situ doped grown region (3). Nitrogen is the preferred carrier gas.

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